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BANK RESTRUCTURING IN INDONESIA

SUSAN L. BAKER[1]

Executive Summary

How did we get here? Between June 1997 and February 1999, the Indonesian banking system lost Rp239tr in equity, according to BI statistics. While some of this loss may have been due to mismanagement and poor supervision, it is important to note that all banks, clean or not, in Indonesia or elsewhere, suffer from adverse effects of a currency devaluation.[2] A devaluation hits banks earnings through *higher cash expenses* (on their foreign currency denominated borrowing) and *lower cash income* (on non performing foreign currency loans to Indonesian corporations). Banks could not make up for these losses by raising the interest rate on rupiah denominated borrowings without significantly increasing their non-performing loans (NPLs). Banks also suffered from *higher non-cash provision expenses* for loan losses. These three effects led to large losses in the banking system.

Who should pay? There are 4 parties who could potentially pay for the bank losses stemming from devaluation and related problems. The *owners*, unfortunately, did not have enough positive equity built up at the beginning of the crisis to pay for all the losses in the banking system. Their entire net worth in these banks is not enough to pay for the losses. The *foreign creditors* could write off all of their loans to the system, but this amount – even when combined with the owners' equity – would still not be enough to cover the loss. Further forcing such write-offs could jeopardize Indonesia's access to foreign funds in the future. The *depositors* could pay for some of the loss. Indeed in the first wave of bank closures, in November 1997, depositors with more than Rp20m in the closed bank were not guaranteed the return of their funds. However, this policy led to panic, as people took their money out of the banking system, out of rupiah and often out of the country. Thus the *Government* stepped in to bear the costs instead of the depositors. Through its January 1998 guarantee***, after writing off the equity of the owners, the Government, through the taxpayers, agreed to bear the losses of the banking system that otherwise would have been born by depositors and foreign creditors***.

How should the loss be paid? To minimize the cost of this guarantee to the taxpayers, the Government has a bank restructuring program. Restructuring involves two main options: closure (which is expensive and may destroy key parts of the country's economic infrastructure, but makes bankers pay for past mistakes) and recapitalization (which is cheaper and may help jump start economic growth more quickly, but may encourage continued risky behavior by bankers). The Government has chosen a mixed approach where some banks will be closed and others will be recapitalized.

Indonesian banks were initially divided into 3 categories: category A banks with CARs above 4%, category B banks with CARs between 4% and –25%, and category C banks with CARs less than –25%. Based on the March 1999 restructuring package, 74 category A banks

[1] Consultant for the Partnership for Economic Growth (PEG), a Joint Project of USAID and the Government of Indonesia, May 1999. The views expressed in this report are those of the author and not necessarily those of USAID, the U.S. Government or the Government of Indonesia.

[2] Prior to the crisis Indonesia had a managed floating exchange rate system, at which point it moved to a pure float. The adjustment of managed float or floating exchange rate would normally be a depreciation. However, given the magnitude it is called a devaluation in this paper.

will not receive Government assistance. Nine category B banks which met additional criteria ("fit and proper" management, a viable medium term business plan, and no violations of the legal lending limit to affiliated companies) will receive assistance from the Government equivalent to 80% of the funds needed to bring the bank's CAR up to 4%. The remaining 21 category B banks which did not meet the criteria or which could not provide their 20% of the recapitalization bill joined the 17 private category C banks in being closed or resolved by IBRA. The only exceptions to this triage program are the 7 state-owned and the 11 state-controlled (BTO) banks, which, for various reasons, were deemed valuable for the development of some parts of Indonesia.

The details have not been announced yet but we assume that the government will pay for this restructuring by issuing 5 kinds of bonds. First, *BLBI fiscalization bonds* to repay BI for the assistance already given to the banks during the height of the liquidity crisis. The MoF will pay BI an interest rate of 3% on the principal of the bonds, which will be adjusted by inflation every year and paid off slowly over 20 years. The payment on these bonds is between MoF and BI. However after their issuance, IBRA will have control over the BLBI credits outstanding to banks and can use this as partial recapitalization through debt to equity swaps. Second, the Government will issue a) *variable rate recapitalization bonds* and b) *fixed rate recapitalization bond*s to pay for the recapitalization of banks up to 0% CAR and from 0% to 4% CAR, respectively. The interest on the variable rate recapitalization bonds will be linked to the 3 month SBI, while the rate on the fixed rate recapitalization bonds will be chosen to represent a 5 or 10-year risk free rate. All of this interest will be paid from the MoF to the banks until the bonds mature between 3 and 10 years from now. Third, some of the cost of recapitalizing the state-owned banks may be paid for with *inflation-linked recapitalization bonds*, which will pay an interest rate of 3% on the principle of the bonds, which will be adjusted by inflation every year and paid off slowly over 20 years. Finally, *variable rate deposit compensation bonds* will be issued and sold to BI in order to compensate banks which receive the deposit liabilities from closed banks. These will earn market interest rates (three month SBI), but will be retired early (within 3 to 4 years) with proceeds from the recovery of assets.

The ultimate cost to the Government, and taxpayer, depends not only on the principal and interest on the bonds, but also on the recoveries that the Government makes on the assets its acquires through restructuring. The Government will have several types of assets it can sell to raise funds. These claims include: (1) asset pledges from business groups on personal guarantees for liquidity credits received during the crisis; (2) performing assets from the closed banks; (3) non-performing assets from the closed banks; (4) substandard, doubtful and bad loans (Categories 3,4 and 5) from the state banks; (5) bad loans (Category 5) from the private banks that were recapitalized by the Government; and (6) equity stakes in the banks taken over (BTOs) such as Danamon, BCA, and others. Further funds could be raised by privatizing (partially or fully) the state banks once their recapitalization and operational restructuring processes are complete in a few years.

This paper outlines one scenario for the costs involved in the bank restructuring process. With audits of many of the banks still underway and many decisions regarding the structure of the bonds and interest payments still being finalized, this scenario is only one of many possible outcomes. In fact, it is only as good as the assumptions it is based on. As these change or as new problems or issues arise during implementation these assumption will have to be adjusted. The intention of including such a tentative scenario is to explain the major components of the Government restructuring plan and to give a rough estimate of the cost.

BANK RESTRUCTURING IN INDONESIA

Twenty months into the Asian financial crisis, the Indonesian banking system has a negative net worth of nearly Rp200tr.[3] Banks have made virtually no new loans since late 1997, and are continuing to lose money by the day.[4] Without bank lending, new economic activity is not sufficiently supported and economic recovery is forestalled. To address these negative impacts the Government of Indonesia is currently implementing a plan to recapitalize some of its public and private banks.

This paper aims to explain how the banks got into their current difficulties and why and how the Government is trying to help them. It is divided into 3 parts: (1) an explanation of how devaluation led to large losses in the banking system's earning (how did we get here?); (2) how the decision on who should pay for the large losses in the banking system is arrived at (who should pay?); and (3) how the Government is addressing the banking problems (how should it be paid?).

I. How did we get here? : The effects of devaluation on banking profitability

This section discusses how the banks came to be in such difficult circumstances. Many have rightly pointed out that problems in the banking sector are due to lack of adherence to BI's banking supervision policies. However, even a perfectly healthy bank would have had serious problems during this crisis. Every bank, clean or not, in Indonesia or elsewhere, is badly hurt when its currency devalues significantly. This section describes the effects of currency devaluation on the Indonesian banking system's earnings. There are two main impacts: *a fall in net cash income* and *an increase in non-cash expenses.* Both of these impacts lead to lower (even negative) earnings for banks. It is these losses that must be addressed (see section II below).

Cash income falls as cash expenses increase. Devaluation hits a bank's cash income in two main ways. First, to the extent that banks have borrowed in US$, they suddenly owe more money to foreign creditors in rupiah terms.[5] Thus, the banks owe --- and must pay --- more money in rupiah terms than before the devaluation. Second, to the extent that banks have lent to corporations in US$, they (the banks) are vulnerable to the problems their corporate borrowers face in repaying these US$ loans. In rupiah terms, companies who borrowed in dollars now owe more. However, since a large percentage of these companies are not able to pay back these loans, the bank actually earns less money. This is especially true if, as in Indonesia, many of the companies did not hedge their foreign currency borrowings to cover for exchange rate risk.

With higher expenses on foreign currency liabilities and lower income on US$ loans to corporations, a bank has difficulty in maintaining sufficient cash revenue to pay its operating

[3] According to figures released by Bank Indonesia through end February 1999 (see Appendix 1).
[4] Loans in rupiah terms for the banking sector have risen mainly due to 2 factors: foreign exchange effects and capitalization of unpaid interest ("plafondering" or "evergreening"). Neither of these factors represents true new lending.
[5] It is important to note that the level of Indonesian banks foreign debt was not excessive compared to other countries in Asia due to limits on such borrowing imposed by Bank Indonesia. In fact, at the end of 1997, only 8% of Indonesian foreign debt was borrowed by banks, compared to 42.6% in Thailand, 44.1% in Korea and 52.7% in Malaysia. Source: Goldman Sachs, "Asia's Debacle" November 12, 1998.

costs (salaries, rent, etc.) much less depositors' interest. In response, a bank will try to raise interest rates on rupiah loans. With the economy weakening, many companies have difficulties meeting their regular loan payments, much less paying loans at higher interest rates, and defaults spread to rupiah borrowers as well. As a result, the bank earnings from rupiah loans may fall as well. Due to this combination of factors, therefore, a bank earns far less net cash income following devaluation.

Non-cash provisioning expenses increase. Banks also face another source of losses following devaluation: the non-cash expense of providing for bad loans. Banks have always had to set aside a certain amount of their profits, called provisions, for loans in order to guard against the possibility of loss. Even for a good loan a bank must put aside 1% of the loan's net value to guard against possible loss. As loans show more problems, the amount of provisions required increases, see Table 1. For example, if a loan has not been paid for 5 months, the bank must take from its profits 50% of the net value of the loan as a provision. All of these provisions show up as expenses in the bank's profit & loss statement.[6] Thus, if a bank adds provisions, its net profit is lower (or its net loss is larger). As described above, devaluation leads to problems with US$ denominated loans and banks' efforts to increase revenue by raising interest rates on domestic loans lead to problems with rupiah denominated loans. Between these two forces, bad loans mount and banks' provisions rise after devaluation.

Table 1. Definitions and required provisions by loan collectability

Category	Classification	Provision required* (% of net loan value)**	Ability to Pay Criteria ***
1	Performing loans	1%	All payments on time
	Non-performing loans		
2	Special mention	5%	Some irregularities, but < 3 months overdue
3	Sub-standard	15%	> 3 months overdue
4	Doubtful	50%	> 6 months overdue
5	Bad	100%	> 9 months overdue, or declared "bad"

* The rate of provisions required for category 1, 2 and 3 loans will be gradually raised (roughly every six months) to these levels by June 2001, from their end 1998 levels of 0.25%, 1.25% and 3.75%, respectively. See enclosure to BI decision No. 31/148/KEP/DIR dated November 12, 1998.
** Net loan value is currently calculated by BI as the total value of the loan minus a collateral deduction (see glossary for detailed definition of collateral deduction).
*** BI decision No. 31/148/KEP/DIR dated November 12, 1998 also sets out criteria for loan classifications by business prospects and financial condition of the borrower.

Losses will continue to grow. Following devaluation, banks have two sources of losses: the actual cash losses the bank incurs and non-cash accounting losses on required provisions for bad debt. As of February 1999, banks have lost around Rp239tr, (Rp41tr in positive pre-crisis equity wiped out plus Rp198tr in negative equity).[7] Unfortunately, these losses will continue to increase for two reasons. On the cash side, banks continue to pay out more money in deposit interest than they earn on their loans ("the negative spread"). On the non-cash side, many banks have yet to fully provision for their non-performing loans. As loans move from substandard to doubtful to bad over time, banks will have to make more provisions and losses in the banking sector will continue to grow for the coming months.

[6] The provisions in each year (flow) are added to the provisions from previous years, which are shown on the balance sheet as reserves (stock). These reserves are usually shown on the balance sheet as a negative asset. Once a loan has been declared "bad," the bank must write off 100% of the net value of the loan against its accumulated reserves.
[7] See Appendix 1 for pre- and post-crisis combined balance sheets of Indonesia's commercial banks. Bear in mind, however, that the accounting standards used in the monthly BI reporting differ somewhat from the accounting standards used in auditing the banks for consideration in the recapitalization program.

II. Who should pay?: Covering the banking systems' losses

The last section showed how the banking system has been hit with large losses since the beginning of the crisis, and how these losses will continue to rise. This section examines how Indonesia decided who should pay for these losses. There are four basic options for distributing the losses in the banking sector: owners, creditors, depositors, and Government. The ability and motivation, and advantages of each paying or not paying is discussed below.

Owners: not enough equity to shoulder the whole burden. The obvious parties to pay for the losses of the banking system are the owners of the banks themselves. The owners earn profits when the banks succeed and are expected to suffer the loss when they fail. Further they are the ones who, many argue mismanaged the banks, in, among other ways, not preparing for the risk of devaluation. The problem is that the owners' equity in the banking system at the beginning of the crisis has not proven to be enough to pay for the entire loss. In fact, owners' equity in the banking system has already been wiped out.

Creditors: not enough to cover losses, and if forced to pay, risk of not lending again in short term. Indonesia could insist that foreigners who lent money to these banks absorb some loses. However, total foreign liabilities of the banking system are relatively small,[8] and --even combined with the owners' equity-- would not be enough to pay for the banking systems' losses. Moreover, if Indonesia took the step of unilaterally declaring a debt moratorium on foreign liabilities, it might be very hard to convince foreigners to lend money or invest in Indonesia in the near future. This would make economic recovery slower and more difficult.

Depositors: small depositors cannot afford the loss, risk of bank runs and capital flight. Even if the owners and creditors were to lose all their equity and lending respectively, there would still be an unfunded loss in the banking system. In other words, if the insolvent banks were closed and all the assets liquidated, not all of the depositors could be paid back. The amount earned from the liquidation would be lower than the book value of the assets due to the level of non-performing loans and the depositors would have to bear most of the losses. This is a very difficult way to resolve the problem as depositors fear of losing their hard-earned savings creates panic and systemic risk. If depositors know that the banking system is weak they try to get their money out of the banks, out of rupiah, and perhaps even out of the country. This rush weakens the banking system, puts pressure on the currency, and makes economic recovery more difficult.[9]

Government: can shoulder the burden more equitably and maintain economic growth. Faced with the prospects of angry depositors, scared foreign creditors, and large scale capital flight, governments around the world have chosen to step in and on behalf of the taxpayers, bear much of the cost of the banking systems' losses following a crisis. There are several reasons for this difficult decision. First, if taxpayers bear the remaining losses, after the owner's equity is

[8] Indonesian banks have only US$10.8bn of external debt outstanding, while Indonesian corporations have US$67bn, the Indonesian Government has US$67bn, and state enterprises have US$5.6bn as of December 1998 (total US$150bn). As mentioned, the share of external debt attributed to the Indonesian financial sector (vs. the non-financial sector) is much smaller than in other crisis hit Asian countries.

[9] Another way to make depositors to bear some of the cost is to constrain interest rates to levels below the inflation rate (creating negative real interest rates). Depositors recover their nominal deposits, but the real (inflation adjusted) value of their deposits declines. This process is accompanied by high inflation and usually carries a high price, including further depreciation of the currency and capital flight.

written down, these losses can be shared more equitably. First, it would be unfair to return the deposits of those who happened to be first in line. Second depositors, and especially small depositors, are unaware of the condition of the bank they use and need protection against the risk of losing their savings. Third, with progressive tax systems wealthier people paying taxes rather than depositors pay. Fourth, this allows the repayment to be stretched out over a long period of time easing the transition.

In addition, the Government cannot promote economic growth without a banking system. The banking system is vital in channeling funds to thousands, if not millions, of businesses that in turn employ the millions of people. Without these loans (and the selection and administrative services provided by banks), the economy cannot meet people's aspirations for a strong economy, more jobs and a better life. Thus, the Government has an interest in making sure that bank runs and/or capital flight do not destroy the entire banking system.

Finally, the Government has an interest in maintaining good relations with foreign creditors. If the foreign creditors are forced to take a loss on their lending, there is a risk that foreigners will not continue lending money to the country. A lack of foreign funding would make it difficult to improve the economy following the crisis.

Indonesia's decision: Guarantee deposits and other liabilities, make owners pay as much as possible, and the Government will pay the rest. The Government of Indonesia took two approaches to fixing the banking system. Early in the crisis, the Government tried to make the owners, foreigners and large depositors bear the cost of the crisis. This was the strategy adopted when 16 banks were closed in November 1998. These banks' depositors were allowed to withdraw a maximum of Rp20m. Depositors with more than Rp20m in the closed banks had to wait for the liquidation of the banks' assets to recover anything further. Unfortunately, this created widespread confusion and panic among depositors, leading to several runs on banks that were still open. People took their money out of the bank and either kept it in their house, put it in foreign banks, or sent it overseas ("capital flight").

In order to stop these runs from destroying the banking system, and hurting the economy further, the Government changed tactics and took a new approach to fixing the banking system. In January 1998, the Government issued a guarantee. This guarantee covered all deposits (except those connected to the owners) and other lenders to the banking system (mainly other domestic and foreign banks). This system was designed to impose as much of the loss as possible on the owners, who lose all their equity and their connected deposits. However, the owners' equity and deposits are not enough to cover all the losses, and so the Government, and ultimately the taxpayers, will also have to pay to fulfil this guarantee. *The main reason the Government is covering the losses in the banking system is to prevent the depositors from losing their money.*

III. How to pay for the losses? : A bank restructuring program

Having made the commitment to guarantee depositors' money, what is the best way of making good on the guarantee? This section discusses the Government's two main options in addressing the banking systems' problems: closure and recapitalization. In order to demonstrate the merits and demerits of each of these options, we will use the *extreme* example of applying each option to the *entire* banking system. (See Table 3 for comparison.)

Bank closure. Given the dismal performance of the banks as well as the bad behavior of some individual bankers, it is tempting to try to start fresh by closing all the unhealthy banks (i.e. almost all of the banks). However, it is not in the country's best interest to close *all* of the banks for several reasons:

- *The cost of closure is expensive.* If the Government decided to close the banks and make good on its guarantee, it would have to pay back all of the deposits and creditors of the banking system. Typically, deposits (and other liabilities of the banks) amount to at least 80% of banking assets. Some of this could be reimbursed to the Government by selling the assets of the banks. However, as described above, many of these assets (loans) are non-performing and not worth their paper value. Moreover, the Government does not have the infrastructure to manage the sell-off of all the banking assets, and the resulting inefficiency leads to a lower recovery rate. This makes closing of banks very expensive in many cases.

- *The large scale new lending needed for sustained economic growth is impossible without the banking system.* The banking system is a key element in economic recovery. A banking system is one of the most efficient ways to channel savings to investors. These investors use the money from bank loans to build the factories, stores, and companies that employ workers. If the investors cannot get money from the banking system, their ability to expand their businesses is very limited. Without expanding businesses, economic growth is impossible. Certainly, some funds can be accumulated (through retained earnings) and some lending can be done without a bank (through *arisans*, etc.), but this lending is not large enough to re-ignite widespread growth in the Indonesian economy.[10] Closing the banking system, or even closing banks that exclusively serve a community, therefore, destroys the infrastructure for economic growth.

- *The need for private banks.* Some people have argued that the Government should shut down all the private banks and simply let the state banks be the engine of economic growth. However, it is in the country's best interest to maintain a balance between public and private banks for several reasons. First, state banks have not been as profitable or efficient in providing banking services as private banks.[11] As shown in Table 2 below, they have consistently had a higher share of non-performing loans than private banks. Second, private sector banks have been the innovators in financial markets and banking in Indonesia, including such advances as creating widespread networks of ATMs, underwriting commercial paper, syndicating loans etc. Such innovative private bankers help Indonesia

[10] In other countries, the equity and debt markets provide financial intermediation as well. In Indonesia, these markets may be able to help some larger scale, modern businesses, but they are not sufficiently developed to provide services (receiving deposits and dispersing loans) to a large part of the economy currently served by the banking system.

[11] For example, although the state-owned banks represented 37.5% and 36.8% of the industry's equity and assets in 1996, respectively, they accounted for only 27.4% of the industry's 1996 profits. This means they were less efficient at using assets and capital to create profits than private banks.

maintain its international competitiveness by saving corporate resources involved in financial management activities.[12] Third ---and most importantly--- given the Government's limited resources, the more private sector capital that can be devoted to bank restructuring the better. That way the Government can use its own money for better education and health, etc.

Table 2. NPLs by type of bank

	1991	1992	1993	1994	1995	1996	1997
All bank loans	121.4	130.0	177.5	207.1	267.6	331.3	445.0
NPLs (Rp tr)	11.1	17.9	25.2	26.2	27.9	29.1	32.2
NPLs (%)	9.2%	13.8%	14.2%	12.6%	10.4%	8.8%	7.2%
State bank loans	67.9	77.0	94.1	104.1	120.9	138.9	196.1
NPLs (Rp tr)	7.7	13.6	18.6	19.4	20.0	18.7	22.0
NPLs (%)	11.4%	17.7%	19.8%	18.6%	16.6%	13.4%	11.2%
Private FX bank loans	33.5	32.5	55.3	78.0	103.1	139.4	176.9
NPLs (Rp tr)	2.1	2.2	2.9	2.9	3.8	6.0	6.1
NPLs (%)	6.3%	6.8%	5.2%	3.7%	3.7%	4.3%	3.4%
Foreign & JV bank loans	8.7	9.3	14.7	18.4	24.4	27.0	48.7
NPLs (Rp tr)	0.1	0.0	0.1	1.1	1.2	1.5	2.2
NPLs (%)	0.9%	0.2%	0.5%	5.8%	5.0%	5.4%	4.5%
Other bank loans	11.4	11.2	13.3	6.6	19.2	26.0	23.3
NPLs (Rp tr)	1.2	2.0	3.6	2.8	2.8	3.0	1.9
NPLs (%)	10.7%	18.3%	26.7%	42.7%	14.7%	11.6%	8.0%

Source: Bank Indonesia

The main advantage of closing all the banks would be to demonstrate the Government's resolve to deal firmly with badly managed banks by not bailing them out after their reckless behavior. This would address the moral hazard problem of bankers behaving badly because they expect no bad consequences for their actions. However, it would also mean punishing reasonably good bankers that were negatively affected by devaluation through no fault of their own.

Bank recapitalization. Another way to address the problems of the banking system is through recapitalization. If the banks remain open, the Government does not have to pay out on the deposits and liabilities through its guarantee program, at least not up front. However, the Government does have to make the banks strong enough to withstand any bank runs caused by depositors nervous about the weak state of the banking system. By international standards, banks are considered "safe" in the medium term if they have a Capital Adequacy Ratio (CAR) of 8%. (see Text Box 1 for a more complete discussion of how to calculate the CAR). As of December 1998, the Indonesian banking system as a whole had a CAR of negative 15.9%.[13] Recapitalizing all of the banks to a reasonable CAR level has many advantages:

[12] For example, nationwide companies can save considerable resources and have much better corporate governance thanks to the few private banks that have developed real-time on-line banking services in the provinces. Without this technological network, financial reporting is more time consuming, more expensive and riskier from a corporate governance point of view.

[13] See Appendix 1.

- *Cheaper way to make good on deposit guarantee.* Recapitalizing the banking system is far cheaper than closing the banking system. The Government would it would have to inject enough equity to (1) bring the banking system's negative equity up to zero and (2) bring the positive equity up to 8% of the banking system's risk weighted assets. This equity injection would amount to only around 20% to 25% of banking assets (compared to 80% of banking assets if depositors and creditors are paid out).

  In the longer run, more of the cost of the initial outlay is likely to be recovered for recapitalization rather than closure, for several reasons. First, private banks, who have their own money at risk, will be encouraged to recover on more of their NPLs. Second, the Government will still have the infrastructure (the banks) available to help them collect on the NPLs that they assume under the plan. Finally, once the economy recovers, the Government can sell its equity investments in private banks to private bank owners or to other parties and also privatize some of its investment in the state-owned banks. Thus, not only would the initial outlay for recapitalization be cheaper than liquidation, but it is also likely that the ultimate recoveries for recapitalization would be higher than for liquidation.

Text Box 1: How strong is strong enough for a bank?

In the short term, the key element of a bank's strength is its liquidity. The basic goal of liquidity is to ensure that a bank will have enough cash on hand to be able to pay out any funds that depositors may demand on any given day. In order to encourage liquidity, banks are required to keep a certain percentage of their deposits on reserve at BI. This percentage, called the "reserve requirement,"[*] is currently 3% for US$ deposits and 5% for rupiah deposits. While this cash in the central bank will help the bank withstand a small rush in depositors, it will not be enough to keep depositors happy if they perceive there is something fundamentally wrong with the bank in the long term.

In the long term, the key element of a bank's strength is its capital adequacy. The basic goal of capital adequacy is to ensure that a bank keeps enough capital so that if it incurs any losses on its assets, it will be able to pay for the losses from its capital.[**] This is designed to make sure that owners know they will lose some of their own money if they mismanage the bank.[***] Specifically, the capital adequacy requirement is measured by a Capital Adequacy Ratio (CAR). The CAR is the ratio of equity to risk-weighted earning assets. As shown in Table A below, to calculate a CAR, first, a banks' earning assets (assets which earn interest) are weighted according to their risk. The riskier the assets, the more capital the bank has to keep in order to pay for possible losses. For example, loans to the government have no risk (0% weight) and loans to private corporations are the riskiest (100% weight). Second, the bank's risk-weighted earning assets must be compared to its equity. By international standards, a bank should keep its equity equal to or above 8% of its total risk-weighted earning assets, (i.e. a CAR of 8%).

Table A. Example of a CAR calculation

Earning Assets	**Value**	**Risk weight**	**Risk-weighted value**
SBIs and Government bonds	Rp 100	0%	Rp 0
Loans	Rp 900		
Interbank loans	Rp 100	100%	Rp 100
Loans to private corporations	Rp 600	100%	Rp 600
Loans for state-owned enterprises	Rp 100	50%	Rp 50
Loans for mortgages	Rp 100	50%	Rp 50
TOTAL	**Rp 1000**		**Rp 800**
Equity			Rp 64
CAR = Equity/Risk Weighted Earning Assets			= 64/800 = 8%

[*] These cash reserves at BI should not to be confused with the provision requirements that address NPLs.

[**] A bank usually builds up its capital by retaining some of its net profit every year. The part of its profits that the bank keeps is added to equity or capital, and the part that it does not keep is returned to the owners of the bank as dividends.

[***] Thus, capital adequacy requirements are supposed to address what economist call "moral hazard."

- *Allows for new lending, and can help economic recovery*. When looking at a CAR calculation, it is easy to see that if a bank wants to make a new loan to a private company, it must also increase its equity by a percentage of the value of that loan.[14] If the bank does not have enough equity, it cannot make any new loans. If the bank's equity and CAR were negative, a responsible bank would actually *shrink* its loans in order to achieve the required CAR level. Certainly, it would be difficult to get the economy growing if the banks were forcing companies to pay back their loans early in order to maintain their capital adequacy! Thus, helping the banks recapitalize to a positive CAR will help ensure that banks do not try to shrink their loans further. In fact, if the banks can add new equity to their balance sheet, they may be able to begin making new loans. Getting new loans to Indonesian businesses is one of the best ways to get the economy growing again.

- *Leverages private sector money and expertise*. Recapitalization allows the Government to encourage private sector money to help re-ignite growth in the Indonesian economy. This is because bank owners must also contribute to the recapitalization of their bank (see program details below). The Government can then use the private sector's expertise in providing and administering loans in order to promote economic growth. Finally, to the extent that bank loans help spur economic growth, the Government can use its money for areas more directly under its management, such as infrastructure, education and health.

- *Maintains the infrastructure for financial intermediation*. Recapitalizing the banks means that the bankers' relationship with their depositors and borrowers remain in tact. Closing the banks would destroy this relationship and ignore the value that has been developed by bankers learning about their customers' needs. Moreover, as mentioned above, these relationships have a real cost advantage, since it would be easier to recover on NPLs if the bankers who know the companies best were involved in their collection.

The major problem with recapitalization, however, is that it sets a precedent that banks will be bailed out in the face of problems. Without fear of punishment (through closure), bankers may be encouraged to engage in more risky behavior in the future, through questionable loans, corruption, bad management. In short, recapitalizing the banking system may encourage the complacency that contributed to the problem.

When looking at these two extreme cases (see Table 3), we see that both options have pluses and minuses. Recapitalization may be cheaper and help speed economic recovery, but it would not deal with bankers who have seriously mismanaged their banks. Closure would take a firm stand against bad bankers, but is more expensive and would destroy the banking infrastructure needed for economic recovery. The Government, therefore, has decided to adopt a little of each approach. Some banks will be recapitalized and some banks will be closed.

[14] For example, using the CAR calculations shown in the Table A in Text Box 1, if a bank wants to lend out a loan of Rp200m, then it must put aside an additional Rp16m in equity, if the CAR requirement is 8%.

Table 3. Summary comparison of bank closure and recapitalization for the entire banking system

Closure	Recapitalization
Initial Outlay	
• Total: All deposits plus bank liabilities, roughly 80% of banking assets	• Total: Negative equity + 8% of risk weighted assets, roughly 20-25% of banking assets • Private sector would pay for 20% of the equity given to surviving private banks
Recoveries	
• Government manages all recoveries of assets, performing and non-performing.	• Private banks manage recoveries of most NPLs (Except Cat. 5 which is transferred to IBRA) • Government (IBRA) manages some NPLs (Cat. 5 of private banks and [possibly 3,4],5 of state banks) • Government equity investment is bought back by owners or sold between 3 and 5 years.
Intangible benefits	
• Takes tough stance on bad owners • Eliminates moral hazard/expectations of future bailouts.	• Maintains relationships between bankers and both borrowers and depositors • Maintains banks which are vital to certain communities • Maintains stability of financial system

Details of current restructuring plan

The Government has announced an extensive plan to restructure the banking system.[15] It has decided not to help recapitalize all the banks, but rather only those that have met certain criteria (see Table 4 below). Some banks are strong enough without assistance (Category A). Some banks were to be considered for recapitalization assistance (Category B), but had to meet certain additional criteria. Banks that did not meet the criteria (Category C) were to be closed with their assets and liabilities resolved by IBRA.

Table 4. Three categories of banks

Category	CAR requirement	Actions to be taken	Examples of banks
A	CAR >= 4%	No Government recapitalization assistance	Strong private banks, many non-forex banks
B	– 25% > CAR < 4%	If "fit & proper", LLL under limit, good business plan, and put up 20% of money, Government will put up 80% of funds up to 4% CAR. Bad loans transferred to IBRA's AMU.	Strong private banks approved to be recapitalized. Some good banks did not pass because no money for 20%, were either taken over or closed. Weak banks that did not meet criteria were closed.
C	CAR<= -25%	Most closed, assets and liabilities transferred to AMU. Some merged into new "good" banks, with bad loans transferred to AMU. State-controlled banks recapitalized.	Most closed banks are small weak private banks. Merged banks generally will be B banks that did not pass tests. Recapitalized will be state (Mandiri, BNI, BRI) plus BTO banks (Danamon, BCA, and others)

[15] See Appendix 4 for international comparison of the successfulness of various policy instruments in bank restructuring.

Criteria for bank categories. The initial recapitalization criteria was the bank's CAR, as estimated by an audit conducted in March 1998. Private banks whose CAR was greater than 4% were not entitled to Government assistance. According to the March 1999 announcement (see Table 5), 74 banks, accounting for around 7% of year-end 1998 banking assets, were deemed to be category A banks.

Private banks with CAR between –25% and +4% after fully writing down all bad (Category 5) loans were considered for recapitalization. In addition to the CAR requirement, the bank had to pass four other hurdles. First, the bank had to submit a medium term business plan, demonstrating that the bank will be profitable after the recapitalization program. If the plan was approved, the bank has to meet subsequent periodic targets. Second, the bank had to make current all its connected loans (no NPLs) and bring its connected lending within the legal lending limit. Third, the bank's management had to be deemed "fit and proper," with professional, capable and honest management. Finally, the owners had to prove that they could put up cash equivalent to 20% of the capital needed to bring the bank up to 4% CAR after writing off the bank's bad loans (category 5). Only if the bank met *all* of these criteria was it actually accepted in the recapitalization program. There were only 9 private banks, accounting for 12% of year-end 1998 banking assets, which were approved for the recapitalization program in the March 1999 announcement.

Not all banks classified as category B banks according to their CAR passed the tests. Thus, there were 21 private category B and 17 private category C banks which will not be recapitalized. They will either be merged or closed by IBRA, which ever is deemed to be more appropriate. All of these banks' assets and liabilities will be transferred to IBRA. When combined with the assets of previously frozen banks, these banks together account for only 5% of the year-end 1998 banking assets. State banks (most of which are C banks in terms of CAR) and BTO banks (which include Danamon, BCA, Tiara, and an additional 7 banks taken over in March 1999) will be recapitalized by the Government. The state banks and BTO banks made up 47% and 13% of the year-end 1998 banking assets, respectively. For these state-controlled banks, the Government will provide 100% of the needed recapitalization funds, possibly after writing off all substandard, doubtful and bad loans (category 3, 4, and 5). The Government's contribution will be in the form of bonds.

Table 5. Breakdown of banking assets after March 1999 restructuring

Bank type	1998 Assets (Rp tr)	Share of 1998 assets (%)	No. of banks
State	397.4	47.1	7
Banks taken over*	113.0	13.4	10
Regional development banks (BPDs)	28.3	3.4	27
Closed/frozen	44.8	5.3	41
Recapitalized	98.5	11.7	9
A Category	60.0	7.1	74
Joint venture and foreign	101.9	12.1	43
Total	844.0	100.0	210

Source: Bank Indonesia, *Note: no data was provided for Bank PDFCI, an additional BTO bank.

Form of payment. The Government's funds for recapitalization will be provided in four forms described below: (1) BLBI "fiscalization bonds," (2) variable rate bonds (2 types), (3) fixed rate recapitalization bonds and (4) inflation-linked recapitalization bonds.

1. *BLBI "Fiscalization Bonds."* These bonds do not represent new money for the banks. This money was already given to banks by BI during the height of the liquidity crisis, and the bonds will merely serve to move this expense onto the budget (see Text Box 2 for explanation) to improve Government transparency. MoF will pay annual interest to BI equivalent to 3% of the principal outstanding, which will be revalued every year ("indexed") by the CPI rate.[16]

   This money, already lent to the banks, can however be used for recapitalization after the fiscalization bonds are issued and IBRA gains control over the BLBI credits outstanding. IBRA will recapitalize the banks by exchanging some of the banks' BLBI debt into equity in the bank. (See transaction 5 in Text Box 2). This debt-to-equity swap method of recapitalization can only be used for banks that have BLBIs outstanding, such as Danamon, BCA and some state banks.[17]

2. *Variable rate bonds.* These bonds do represent new money for the banking system. There are two types of variable rate bonds. *Variable rate recapitalization bond*s will be used to pay for equity to bring banks up to the level of 0% CAR (see Text Box 3). *Variable rate deposit compensation bonds* will also be used to compensate banks that are transferred the deposits from banks which are closed (see Text Box 4). Both of these types of variable rate bonds will pay a market interest rate, which will change quarterly, in order to help the banks offset the interest payments on their liabilities (mainly deposits).

3. *Fixed rate recapitalization bonds.* These bonds also represent new money going into the banking system. These bonds will be used to pay for equity to bring the CAR from 0% to 4%, if the private sector's 20% contribution is not sufficient (see Text Box 3). These bonds will pay a fixed rate of interest for their entire term (expected to be 5 to 10 years).

4. *Inflation-linked recapitalization bonds*. These bonds also represent new money going into the banking system. These bonds will be used for state-owned banks, covering a certain share of the state banks' total recapitalization needs. These inflation-linked bonds will pay annual interest equivalent to 3% of the principal outstanding, which will be revalued every year ("indexed") by the CPI rate. Although the interest payments are structured similarly to the BLBI Fiscalization bonds, it is important to note that these bonds will pay interest to the banks, not to BI (see Text Box 3). The lower up front payments on these bonds takes some pressure off of the budget for the next few years. These bonds will be given to the state banks requiring them to fund their loan growth from internally-generated equity.

[16] This type of bond is also referred to a "negative amortization" bond.

[17] It is important to note that even if all the BLBI credits are re-paid by the former owners of the bank or swapped into equity by IBRA, the MoF will still have to pay off the BLBI fiscalization bonds to BI. These bonds bring the cost of funds used by BI to support bank liquidity at the height of the crisis on to the budget. Recoveries on the assets pledged against the BLBI will be used to offset the costs of restructuring generally and will not reduce these bonds specifically.

Text Box 2: Accounting for the BLBI Fiscalization Bonds

The issuing of the BLBI "bonds" is merely an accounting procedure to move the liquidity credits already given out by BI to IBRA. This will budgetize the part of the banking clean-up which has already been spent by BI. The steps are shown in the T-accounts below. During the height of the liquidity crisis, BI injected around Rp150tr in liquidity credits (BLBI) into ailing banks (transaction 1)*. In order to transfer BI's liquidity credits to IBRA, the MoF sells "bonds" to BI (transaction 2) and use the cash it receives from BI to invest in IBRA (transaction 3). IBRA then uses the cash from the new equity to buy the outstanding liquidity credits from BI (transaction 4). The private banks now owe money to IBRA rather than BI. The cost of the BLBI is now being paid off over time by the MoF to BI (and this interest will show up in the budget). The proposal for these fiscalization bonds is that they will pay interest equal to 3% of the value of outstanding principal, which will be revalued annually by the CPI rate for 20 years. From the 6th to the 20th year of these bonds, the MoF will also pay off the principal of these bonds. So, by the end of the 20th year of these bonds, all interest and principal will be repaid to BI. Meanwhile, the outstanding BLBI credits, which the banks now owe to IBRA, can be used to help with the recapitalization program through debt to equity swaps. As shown in transaction 5, IBRA may swap a certain amount, for example Rp90tr out of Rp150tr, of the outstanding BLBI credits into equity. Thus, IBRA now has an investment of Rp90tr in these banks as an asset, and the banks have Rp90tr more in equity (and there will remain only Rp60tr of BLBI left outstanding).

*Note: We assume that BI funded the original BLBIs in equal parts by increasing currency in circulation and selling some foreign reserves. This is simply our assumption, and other funding combinations are equally plausible. Numbers in parentheses indicate transactions (1) to (5).

Bank Indonesia

Assets	Liabilities
(1) Foreign reserves (75tr)*	(1) Currency in circulation Rp75tr*
(1) BLBI Rp 150tr	
(2) Bonds rec. (MoF) Rp 150tr	(2) Currency in circ. (to MoF) Rp 150tr
(4) BLBI to IBRA (Rp 150tr)	(4) Curr. in circ. (from IBRA) (Rp 150tr)

Private banks

Assets	Liabilities
(1) Cash from BI Rp 150tr	(1) BLBI Rp 150tr
	(4) BLBI-BI (Rp 150tr)
	(4) BLBI-IBRA Rp 150tr
	(5) BLBI-IBRA (Rp 90tr)
	(5) Equity (IBRA) Rp 90tr)

Ministry of Finance (MoF)

Assets	Liabilities
(2) Cash Rp 150tr	(2) Bonds payable (BI) Rp 150tr
(3) Cash to IBRA (Rp 150tr)	
(3) Invest. in IBRA Rp 150tr	

Indonesian Bank Restructuring Agency (IBRA)

Assets	Liabilities
(3) Cash from MoF Rp 150tr	(3) Equity (MoF) Rp 150tr
(4) Cash to BI Rp (Rp 150tr)	
(4) BLBI Rp 150tr	
(5) BLBI (Rp 90tr)	
(5) Investmt in banks Rp 90 tr	

Text Box 3: Accounting for the Recapitalization Bonds

As mentioned above, the MoF's equity stakes in banks participating in the recapitalization program will be paid in the form of a combination of variable and fixed rate bonds. State banks will also receive some of their recapitalization funds in the form of inflation-linked bonds. The accounting for these recapitalization bonds is complicated by one factor. Indonesian company law prohibits any equity investment that is not backed up by cash. Technically, therefore, the Government cannot use bonds to pay for equity directly. To get around this rule, the MoF will initially sell these bonds to BI (transaction 1) in exchange for cash. The MoF will then give this cash to the banks to pay for its equity (transaction 2). The same day, the banks will be *required* to use the cash to buy the bonds from BI (transaction 3). Thus, at the end of this process, the bank will have higher equity on the liabilities side of its balance sheet and an equivalent amount of bonds payable by MoF on the asset side of its balance sheet. As explained above, these bonds will be a combination of variable rate bonds (to bring the bank up to CAR of 0%), fixed rate bonds (to bring the bank up to CAR of 4%, if not paid for by private money) and inflation-linked bonds (for state banks only). Note that IBRA is not in any way involved in the equity investments, since the MoF is the owner of all shares on behalf of the Indonesian Government.

*Note: Numbers in parentheses indicate transactions (1) to (3).

Bank Indonesia

Assets	Liabilities
(1) Bonds (MoF) Rp 232tr	(1) Currency in circulation Rp 232tr
(3) Bonds rec. (MoF) (Rp 232tr)	(3) Currency in circulation (Rp 232tr)

Private banks

Assets	Liabilities
(2) Cash (MoF) Rp 232 tr	(2) Equity (MoF) Rp 232 tr
(3) Cash (to BI) (Rp 232tr)	
(3) Bonds receivable (MoF) Rp 232tr	

Ministry of Finance (MoF)

Assets	Liabilities
(1) Cash Rp 232tr	(1) Bonds payable (BI) Rp 232tr
(2) Cash to banks (Rp 232 tr)	
(2) Investment in banks Rp 232 tr	
	(3) Bonds payable (BI) (Rp 232tr)
	(3) Bonds payable (banks) Rp 232 tr

Indonesian Bank Restructuring Agency (IBRA)

Assets	Liabilities

Text Box 4: Accounting for the Variable Rate Deposit Compensation Bonds

When the Government decides to close a bank, it takes over all assets and liabilities of that bank (transaction 1) in order to fulfill its commitment under the deposit guarantee. However, since the Government does not have the infrastructure to pay out deposits itself, it must transfer these liabilities to a bank which can service the depositors. Since the Government cannot make a bank take on liabilities without providing it a corresponding asset, the MoF must give the receiving bank an asset. This process may work as follows.* The first step in doing this is for the MoF to raise some funds to give to the receiving bank. The MoF does this by selling some of its variable rate bonds to BI (transaction 2). MoF then gives to the receiving bank both the cash received from BI and the deposit liabilities it acquired from the bad bank (transaction 3). Since the receiving bank needs to earn interest on this cash in order to offset the interest it will have to pay on the newly acquired deposit liabilities, the receiving bank buys SBIs from BI (transaction 4). Afterwards, since the MoF does not have the infrastructure to manage the loan portfolio of the bad bank, it transfers the bad bank's loans to IBRA, in exchange for an equity investment in IBRA (transaction 5). The receiving bank can make its interest payments to depositors with the revenue from the SBIs; IBRA is tasked with managing the bad bank's loan portfolio; and the MoF pays for the increase in cash to the banking system by slowly paying off the variable rate bonds to BI.

Numbers in parentheses indicate transactions (1) to (5). * This is only one way that these bonds may be structured, and it is possible that they will be structured differently.

Bank Indonesia

Assets	Liabilities
(2) Bonds receivable (MoF) Rp 40tr	(2) Currency in circulation Rp 40tr
	(4) Currency in circulation (Rp 40tr)
	(4) SBIs to banks Rp 40tr

Receiving Bank

Assets	Liabilities
(3) Cash from MoF Rp 40tr	(3) Bad banks' deposits Rp 40 tr
(4) Cash to BI (Rp 40tr)	
(4) SBIs Rp 40tr	

Ministry of Finance (MoF)

Assets	Liabilities
(1) Bad banks' loans Rp 30tr	(1) Bad banks' deposits 40
	(1) Bad banks' equity (Rp 10tr)
(2) Cash from BI Rp 40tr	(2) Bonds payable (BI) Rp 40tr
(3) Cash to banks (40tr)	(3) Bad banks' deposits (Rp 40tr)
(5) Bad banks' loans (Rp 30tr)	
(5) Investment in IBRA Rp 30tr	

Indonesian Bank Restructuring Agency (IBRA)

Assets	Liabilities
(5) Bad banks' loans Rp 30tr	(5) Equity (MoF) Rp30tr

Table 6. Details of one scenario for various bond issues to fund bank restructuring

Type of bond	Amount of Principal*	Interest payment calculation	Principal repayment	Uses
BLBI fiscalization	Rp 150tr	3% of principal annually, principal's value is adjusted by the CPI each year ("indexed to CPI")	Starting in year 6 to 20	Pays off BI for money already spent during crisis. IBRA may use to do debt to equity swaps.
Variable rate bonds	Rp 166tr	Changes with 3-month SBI rate, paid quarterly	Tenure of bonds will vary from 3 to 10 years, with a lump sum repayments of principal at maturity	To bring banks to 0% CAR (particularly in private banks), and to compensate banks which receive deposits from closed banks.
Fixed rate recapitalization bonds	Rp 18tr	5-year bonds and 10-year bonds at 10%-12% interest, paid semi-annually	Lump sum repayments of principal at maturity	To pay for the 0% to 4% CAR of the private banks which is not covered by owners' 20%. To pay for the 0% to 4% CAR of the state-owned banks
Inflation-linked recapitalization bonds	Rp 88tr	3% of principal annually, principal's value is adjusted by the CPI each year ("indexed to CPI")	Starting in year 6 to 20	To pay for a share (assumed to be 30%) of the recapitalization cost of state banks.

* The numbers here represent one scenario of the cost of the banking sector recapitalization program, and are to be indicative only. Other scenarios, in which the principle outstanding is higher or the structure of the bonds is different, are also plausible.

The bill. The ultimate bill for the bank restructuring program depends on 3 things: the initial outlay (principal on the bonds), the interest paid on those bonds, and the recoveries the Government will make.[18] Each of these are discussed below.

- *Principal*: Table 6 above shows one scenario for the breakdown of Government funding for bank recapitalization. In this scenario, the total value of the funds used for recapitalization would be Rp422tr. This would break down into Rp150tr already spent in the form of BLBI, an additional Rp166tr of variable rate bonds, and around Rp18tr of fixed-rate recapitalization bonds, and Rp88tr for inflation-linked recapitalization bonds for the state banks. Thus the total initial principal outstanding on the bonds would be Rp422tr.[19]

  This number is likely to grow. This is mainly because the first estimates of the cost of banking recapitalization were based on international standard audits done in March 1998, and the situation for banks since then has deteriorated considerably. First, the banks have been facing "negative spreads" for a number of months, whereby they earn less on their loans than they pay out on their deposits. Second, as NPLs have moved from Category 2, 3 and 4 to Category 5, and the banks have needed more provisions (see Table 7 below). These two effects have made the banks' equity more negative, and increased the cost of

[18] See Appendix 5 for international comparisons of the costs of banking restructuring.
[19] Holding the BLBI principal to its March 1999 principal value (i.e. before it has been revalued by the CPI for FY99/2000).

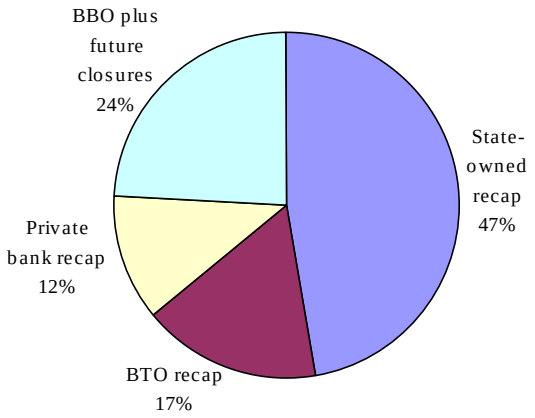
the recapitalization program. In fact, some observers have said that the banking system may have been losing as much as Rp500bn per day in recent months.

Table 7. Deterioration of Asset Quality from March 1998 to January 1999, State banks and private banks

Loan classification	March 98		January 1999	
	Rp tr	%	Rp tr	%
State banks	**263.8**	**100.0%**	**289.9**	**100.0%**
1 Performing	200.0	75.8%	128.6	44.4%
Non-performing	63.8	24.2%	161.3	55.6%
2 Special mention	26.5	10.0%	20.4	11.7%
3 Substandard	18.6	7.1%	29.4	11.4%
4 Doubtful	10.2	3.9%	52.8	12.0%
5 Bad	8.5	3.2%	58.7	6.3%
Private banks*	**240.2**	**100.0%**	**208.6**	**100.0%**
1 Performing	208.1	86.6%	60.1	28.8%
Non-performing	32.1	13.3%	148.5	71.2%
2 Special mention	13.1	5.5%	15.7	7.5%
3 Substandard	9.9	4.1%	22.3	10.7%
4 Doubtful	5.5	2.3%	30.2	14.5%
5 Bad	3.6	1.5%	80.3	38.5%

Source: Bank Indonesia,
Note: Uses BI standards for classification. *Private banks include private forex banks, private non-forex banks and BPDs

Figure 1: Share of principal by use[20]



*Estimates

[20] The share of funds going to state-owned banks is large because (1) state banks make up almost half of the banking system's assets, (2) the state banks' NPLs (in value) are higher than the private banks, (3) state banks are assumed to write off category 3,4 and 5 loans, while private banks will only be able to write off category 5 loans, and (4) 20% of the capital costs for private banks is being provided by the private owners, whereas all 100% of the capital costs for the state banks are paid for by the Government.

The principal on these bonds will have to be repaid someday. The principal on the BLBI fiscalization bonds and the inflation-linked recapitalization bonds is expected to be repaid slowly from the 6th to 20th years of the loans (i.e. beginning in FY2003/04). The principal on the fixed and variable rate recapitalization bonds will be paid back from 2003 until 2010. (See appendix 2.) The variable rate deposit compensation bonds are likely to be paid off over 3 to 4 years from the proceeds of asset recovery (see below). It is likely that some of these principal repayments will be financed through the issuance of new bonds, in an effort to help develop the country's domestic bond market.

- *Interest:* The Government will also have to pay interest on the bonds issued to pay for the recapitalization. As described above (and shown in Table 6), the interest will vary by type of bonds. The MoF will pay to BI interest on the BLBI fiscalization bonds (at a rate of 3% on the inflation indexed value of the principal) as well as interest on the variable rate bonds used to compensate banks receiving deposits from closed banks. All other interest will be paid by the MoF to the banks directly. As shown in Table 8 below, it is currently estimated that all interest payments will total Rp34.4tr in FY99-2000, of which the Rp22.8tr will be from the variable rate bonds (note that some of these bonds will not be issued for the full fiscal year).

Table 8. One scenario for interest payments on bank restructuring bonds

	1998/99	1999/2000	2000/2001	2001/2002
Interest cost (Rp tr)	**4.8**	**34.4**	**35.2**	**34.2**
BLBI fiscalization bonds	2.3	5.1	5.5	5.9
Variable rate deposit compensation bonds	1.4	8.4	4.8	3.2
Variable rate recapitalization bonds	1.1	16.4	20.1	20.1
Fixed rate recapitalization bonds	-	2.0	2.0	2.0
Inflation-linked recapitalization bonds	-	2.6	2.9	3.1
Interest cost (% of GDP)	*0.5*	*2.8*	*2.5*	*2.2*
Principal outstanding (Rp tr)	**238.8**	**461.3**	**470.7**	**475.6**
BLBI fiscalization bonds*	168.8	182.3	195.0	204.8
Variable rate deposit compensation bonds**	40.0	40.0	30.0	20.0
Variable rate recapitalization bonds	30.0	125.8	125.8	125.8
Fixed rate recapitalization bonds	-	18.0	18.0	18.0
Inflation-linked recapitalization bonds*	-	95.2	101.9	107.0
Principle outstanding (% of GDP)	*22.7*	*37.7*	*34.0*	*30.5*
Annual CPI (%)	13	8	7	5
Average interest rate (%)	43	21	16	16

* Assumes that original principle is revalued by CPI at end of each year.

** Assumes that Rp10tr is paid off in 2000/2001 and 2001/2002 from the proceeds of the asset sales by IBRA.

- *Recoveries*. The final cost of bank restructuring will depend on how much the Government can recover from the assets it acquires during the bank restructuring process. The Government (including IBRA) will have four types of assets it can sell to help recover part of the restructuring costs. First, it has the assets that have been pledged to IBRA from various groups in order to make good on the personal guarantees signed when the banks accepted BLBIs from BI. These assets pledges from the various groups will be sold off slowly.[21] Second, IBRA will have the frozen banks' assets, both performing and

[21] The original plan was to sell 27% of these pledged assets in FY99/2000, and sell the remaining assets off in equal shares over the following 3 years (i.e. 24.3% of the assets in each year). The current budget, however, only assumes 20% of these assets to be recovered in FY99/2000 in order to meet the budget target of Rp17tr in recoveries.

non-performing. Third, IBRA will have non-performing loans from the recapitalized banks. While some of these will be category 5 loans from the private banks and category 4 and 5 loans from the banks taken over, the vast majority of the non-performing loans will be the category 3,4 and 5 loans from the state banks.

Finally, the Government will have equity stakes in the recapitalized banks. The Government's stakes in private recapitalized banks can be sold after 3 years. The owners who provided the 20% capital will have the right to match any offer the Government receives between 3 and 5 years after the recapitalization ("first right of refusal"), but after 5 years the Government can sell to any one it wants. The owners of the bank, therefore, have a strong incentive to buy back the Government's shares before 5 years. Moreover, the Government plans to sell some of its stake in the state-owned banks and BTO banks (e.g. Danamon, BCA and others) through its privatization program.

Overall, our base scenario estimates that the Government will reach recoveries of Rp126tr, or 40.6% of the book value of the assets the Government will acquire during the bank restructuring process. (See appendix 3 for more details on this calculation). We conservatively assume that only 14% of the total recoveries, or Rp17tr, will be recovered in FY99/00, all of which derives from sales of assets pledged by the groups to cover their BLBI borrowings.

Appendix 1. Combined balance sheet of Indonesian commercial banks, June 1997, December 1998, February 1999

ASSETS (Rp bn)	**Jun-97**	**Dec-98**	**Feb-99**
Cash and reserves	17.5	34.2	34.5
Foreign assets	17.7	115.7	126.8
Public sector loans & SBIs	18.4	27.6	32.4
Private Loans	333.2	512.7	521.1
Loans (rupiah)	262.7	313.1	313.8
Loans (foreign)	70.5	199.5	207.3
Other assets	40.2	72.3	(10.6)
TOTAL ASSETS	**427.0**	**762.4**	**704.2**

LIABILITIES (Rp bn)	**Jun-97**	**Dec-98**	**Feb-99**
Demand, Time and Savings Dep. (rupiah)	241.6	430.4	440.2
Demand, Time Deposits (foreign)	61.4	143.1	160.8
Foreign Liabilities (overseas borrowing)*	20.0	62.2	60.5
Government deposits	10.9	19.7	20.1
Borrowing from BI	14.6	112.9	122.5
Other	37.2	92.6	98.2
TOTAL LIABILITIES	**385.6**	**861.0**	**902.2**
Equity (includes reserves & ret. earnings)	41.4	(98.5)	(198.0)
TOTAL LIABILITIES AND EQUITY	**427.0**	**762.4**	**704.2**

NOTES	**Jun-97**	**Dec-98**	**Feb-99**
Foreign assets in US$ bn	$7.2	$14.4	$14.5
Loans (foreign) in US$ bn	$28.8	$24.9	$23.7
Total assets in US$ bn	**$36.0**	**$39.3**	**$38.3**
Foreign currency deposits in US$ bn	$25.1	$17.8	$18.4
Foreign liabilities in US$ bn	$8.2	$7.8	$6.9
Total liabilities in US$ bn	**$33.2**	**$25.6**	**$25.3**
Rp/US$	2,450	8,025	8,730
CAR	9.8%	-15.7%	n/a
Risk weighted assets	422.4	627.7	n/a
Risk weighted assets/earning assets	114%	96%	n/a

* includes import guarantees.

Source: Bank Indonesia, monthly statistical bulletin

Appendix 2. Repayment of the principal on variable and fixed rate recapitalization bonds.

The variable and fixed rate bonds for recapitalization[22] are assumed to repay principal when they mature at the end of the bond tenure ("bullet payments"). In order to avoid a large repayment of principal in any given year or month, the maturities of these bonds need to be staggered over several years so as to not be too large a burden on the budget in any given year. The pattern for principal repayment that seems most appropriate for Indonesia at this time is called an "exponential" repayment pattern, which begins with a small amount of loans maturing in early years, increasing until all loans have matured within 10 years (see columns (3) and (4) in Table 9 below). All non-state banks will receive the same proportion of loans with the given maturities, so that the time frame for the cash injections into the banks is the same for all.

Assuming that the Government issues Rp30tr of variable rate recapitalization bonds in FY98/99 (i.e. before March 1999) and an additional Rp64tr in variable rate recapitalization bonds and Rp18tr in fixed bonds during FY99/2000, we calculate the schedule of principal repayments using the "exponential" repayment pattern below (see columns (5) through (7) in Table 9 below).

Table 9. Maturity structure for fixed and variable bonds using exponential repayment pattern

(1) Year	(2) Fiscal Year	(3) Percent maturing *	(4) Cumulative percent matured*	(5) Repayments on variable rate recap bonds (Rp tr)**	(6) Repayments on fixed rate recap bonds (Rp tr)	(7) Total principal repayments on fixed and variable recap bonds (Rp tr)**
0	FY99/00					
1	FY00/01					
2	FY01/02			1.8		1.8
3	FY02/03	5.9	5.9	7.8	1.1	8.8
4	FY03/04	7.1	12.9	9.4	1.3	10.7
5	FY04/05	8.6	21.5	11.4	1.5	12.9
6	FY05/06	10.4	31.9	13.7	1.9	15.6
7	FY06/07	12.5	44.4	16.5	2.3	18.8
8	FY07/08	15.1	59.5	20.0	2.7	22.7
9	FY08/09	18.3	77.8	24.2	3.3	27.5
10	FY09/10	22.1	100.0	21.2	4.0	25.2

* For bonds issued in FY99/00, with 3 year grace period.

** Since Rp30tr of the variable rate bonds were assumed to be issued in FY98/99, 5.9% of that amount must be paid in FY01/02, 7.1% in FY02/03, etc. (i.e. a year ahead of the pattern shown in columns (3) and (4)). The maturity pattern shown in columns (3) and (4) would apply to the Rp126tr in variable rate recapitalization bonds and Rp18tr in fixed rate recapitalization bonds which are assumed to be issued in FY99/00. Columns (5) through (7), reflect the principal repayment schedules on all variable and fixed rate recapitalization bonds issued.

[22] This does not include Rp40tr of the variable rate bonds which will be used to compensate banks for receiving deposits from closed banks. We assume these will be paid off more quickly using proceeds from the IBRA's asset sales.

Appendix 3. One scenario of estimated recovery rates for Government assets acquired through banking restructuring

Given the uncertainties in the market, it is very difficult to estimate the amount of recoveries the Government may make on the assets it will acquire through banking restructuring. The scenario shown below in Table 10 is just one calculation of estimated recoveries, and should be taken as a "back of the envelope" type of calculation which is highly dependent on the assumptions made. Table 11 makes further assumptions about when these recoveries would be made, in order to estimate the overall budgetary impact of bank restructuring. These assumptions are discussed below :

- ***Group asset pledges:*** We assume that the Government will recover 90% of the value of the assets which were pledged by the groups to fulfill the group founders' personal guarantee made when receiving BLBI credits at the height of the crisis. This 90% recovery assumption is reasonable considering that these assets were valued at a level which should produce a return of around 30% (i.e. the Government expects to sell the assets for 30% more than their assumed book value of Rp96tr). In terms of timing, the Government plan is to sell off 27% of these assets in FY99/2000 and to sell the rest equally over the subsequent 3 years. As shown in Table 11, we have assumed that the sale of these assets in the first year will only bring the Rp17tr that has been agreed to by the DPR for FY99/2000 budget, and the rest will be sold in equal shares over the subsequent 3 years.

- ***Closed banks' performing assets***: We arrived at our Rp 27.1tr number by taking 13% of

Table 10. Estimating recoveries of Government assets acquired through banking recapitalization (base case)

Asset	Book value (Rp tr)	Estimated Recovery (%)	Estimated Recovery (Rp tr)	Time Frame (see Table 11)
Group asset pledges (guarantees of BLBI)	96.0	90.0%	86.4	In theory 27% in 99/20, rest evenly divided over 3 years, but only budgeted 20% in 99/00
Closed banks, Performing loans	27.1	40.0%	10.8	1.5-2.0 years earliest
Closed banks, NPLs	19.3	12.5%	2.4	2 years earliest
Private banks, Category 5	23.0	20.0%	4.6	2 years earliest
State banks, Categories 3,4,5	140.8	12.5%	17.6	2 years earliest
Private banks, Equity	3.8	100.0%	3.8	3 years earliest, until 5 years likely
BTO banks, Equity	1.3	60.0%	0.8	1.5-2.0 years earliest
Total	**311.3**	**40.6%**	**126.4**	

the performing loans of the private national banks, as of January 1999.[23] Because these loans are performing, we assumed a relatively high 40% recovery rate. This rate is less than 100% because of the risk involved in acquiring loans during an economic crisis as well as the administrative costs involved in taking over a loan portfolio from a variety of banks. We expect that IBRA will move quickly to organize the sale of these performing loans, and thus will try to package and sell the first block within 1.5 to 2 years. We expect all of these loans to be sold by FY02/03.

- ***Recapitalized private national banks' Category 5 loans***: We assume a 20% recovery rate for these loans, whose book value is equal to 29% of the private national banks' Category 5 loans as of the most recent NPL data (see previous footnote). The recovery rate on these loans is assumed to be higher than the recovery rate on NPLs at the closed and state banks (see below) because the private banks have an incentive under the recapitalization program to help recover these loans. The bank is allowed to use any recoveries to "buy out" the Government's equity in their bank (so that the Government's 80% stake in their bank may be reduced to 75%, for example). Given the legal difficulties of recovering on non-performing loans, we do not expect many of these loans to be recovered until at least 2 years after they are taken over by IBRA.

Table 11. One scenario for estimated time frame for recoveries of Government assets acquired through banking restructuring

Asset	**99/00**	**00/01**	**01/02**	**02/03**	**03/04**	**04/05**
Group asset pledges	17.3	23.0	23.0	23.0		
% recovered	20.0%	26.7%	26.7%	26.7%		
Closed banks, Performing loans		2.2	4.3	4.3		
% recovered		20.0%	40.0%	40.0%		
Closed banks, NPLs			0.7	0.7	1.0	
% recovered			30.0%	30.0%	40.0%	
Private banks, Category 5			1.4	1.4	1.8	
% recovered			30.0%	30.0%	40.0%	
State banks, Categories 3,4,5			5.3	5.3	7.0	
% recovered			30.0%	30.0%	40.0%	
Private banks, Equity				1.0	1.3	1.5
% recovered				25.0%	35.0%	40.0%
BTO banks, Equity		0.4	0.4			
% recovered		50.0%	50.0%			
Total recoveries	**17.3**	**25.6**	**35.1**	**35.7**	**11.2**	**1.5**
% recovered	12.4%	22.2%	27.6%	27.9%	6.0%	1.2%

[23] We assumed that the distribution of performing and non-performing assets among the bank categories would be the same as the distribution of total assets of private national banks in December 1998. In other words, if Category A banks had 17% of total assets of private national banks as of December 1998, they would also have 17% of the NPLs for private national banks. As of December 1998, banks closed in March 1999 comprised 13% of the private national banks' assets, private recapitalized banks comprised 29%, BTO banks comprised 33%, BPD banks comprised 8%, and category A banks comprised 17%. We applied this breakdown to the January 1999 NPL figures for private national bank loans by asset quality in order to determine which assets would be taken over by IBRA (see Table 7).

- ***Closed banks' and state banks' NPLs***: We arrive at our initial book value for these assets by using 13% of the private banks January 1999 NPLs figures for the closed banks, and all of the state-banks' Category 3, 4, and 5 loans from the January 1999 data on state banks for the state banks NPL estimate. For both of these, we assume a conservative recovery rate of 12.5%. We assume a lower recovery rate than for the private banks because the managers at the closed and state banks do not have the same incentive to recover the loans that the private bankers have. Moreover, auctions in Thailand for similar portfolios of NPLs have had difficulty finding buyers who would pay even 25% of book value. Considering that Indonesia has higher country risk than Thailand, we think that our 12.5% recovery rate is a fair assumption. In terms of timing, we expect some of these loans to be sold after 2 years, but the bulk will be sold in the following 2 years.

- ***Private bank equity***. The Government's stake in the recapitalized private national banks is expected to be worth Rp3.8tr, or 80% of the estimated Rp4.8tr in positive capital that these banks will have post write-off and recapitalization. We estimate positive capital by taking 8% of the December 1998 assets less the expected write-off on category 5 loans. We use the 8% figure on the assumption that the private recapitalized banks will meet the required 8% CAR, as required, by 2001 (i.e. before the Government sells its stake). This is most likely a generous assumption. We also assume that the Government will be able to recover 100% of this amount. The owners of these banks will have the right to match any offer for the Government's stake from 3 to 5 years after the recapitalization. After 5 years, the Government can sell to anyone. We expect that the Government can get all of its money back because after 2001 the banks are supposed to have boosted their CAR back to 8%, setting them on the path for future growth. In fact, the Government may be able to sell its stakes for more than book value (i.e. a recovery rate of greater than 100%) if the banks' growth prospects are good. To be conservative, however, we limit our recovery rate to 100%.

- ***BTO equity.*** The Government could perhaps sell its stakes in Danamon and BCA and other BTO banks earlier than other private banks. Danamon and BCA in particular may be attractive to investors, particularly foreign investors, due to their large branch networks and good technology. We estimate these banks will have a post write-off and recapitalization positive equity of Rp1.3tr. This figure is estimated by taking 4% of the December 1998 assets less the expected write-offs. We use only 4% because we do not expect that these banks will have increased their CAR much by the time the Government sells its stakes. In light of this and given the current uncertainty in the market, we do not expect that the Government will recover all of its estimated Rp1.3tr in positive equity in these banks. Thus, we assume a recovery rate of only 60%, with the bank stakes sold over the next 1.5 to 2 years.

Note that we do not make any assumptions for proceeds of privatization of state banks, such as BNI, BTN, BRI or Bank Mandiri. The timing of such privatizations will remain unclear until the process of organizational and operational restructuring at these banks is more fully underway. Moreover, the size of the stake that the Government may want to sell is not clear. (In its only privatization to date, the Government sold only 25% of the shares in BNI to the public.)

Appendix 4: International comparisons of bank restructuring tools

In order to assess the appropriateness of Indonesia's plan, it is useful to compare some of its policy choices to other countries. In "Lessons from Systemic Bank Restructuring: A Survey of 24 countries", Dziobek and Pazarbasioglu examine what policy choices or instruments have been used by 15 countries with "systemic" banking crises.[24] Countries are divided into 3 categories according to the progress made in addressing the banking system problems (i.e. substantial, moderate, and slow). [25]

Table 12. Which types of policy and institutional instruments have been used by countries making substantial progress in banking reform?

	Countries making		
% of countries in each category using each instrument	**substantial progress**	**moderate progress**	**slow progress**
Privatization (for state-owned banks problems)	100	100	33
Owners and Management (incentives)	100	71	33
Loan workout units (e.g. AMU)	100	86	67
Bonds (i.e. exchanging NPLs for bonds)	100	86	100
Closure	80	57	33
New equity (from government)	60	57	33
Merger	60	86	33
Central Bank liquidity support	40	86	100
Central Bank as only agency for restructuring	20	57	100
Average number of instruments used	8	9	7
Number of countries in each category	5	7	3

Source: Dziobek and Pazarbasioglu, "Lessons from Systemic Bank Restructuring: A Survey of 24 countries," IMF Working Paper, December 1997

Note: Data for use of twinning with consultants or other banks, splitting off product lines or branches, deposit instruments, and enterprise restructuring showed no conclusive pattern.

As shown in Table 12 above, some clear trends on which instruments have been used in successfully reforming countries emerge:

- For the banks with state-owned bank problems, privatization was a key element of success. Slow progress countries used privatization only 33% of the time, while all substantial and moderate progress programs used privatization. Thus, the Indonesian Government's plan to privatize its stakes in the state-owned banks as well as the BTO (particularly Danamon and BCA) are key to the successfulness of the restructuring program.

[24] All 24 of these cases are "systemic" bank crises, defined in this paper as a situation when the problems affected banks holding, in aggregate, at least 20% of the total deposits of the banking system.

[25] Countries' progress was ranked in terms improvement of bank performance and strengthened intermediation capacity. Bank performance was ranked according to progress in 3 indicators of a healthy balance sheet (lowering NPLs, lowering provisions/total loans, and increasing capital to assets) and 3 indicators of a healthy profitability (lowering operating expenses/assets, increasing interest income/assets and increasing profits/assets). Intermediation capacity was ranked according to 2 indicators of the scale of intermediation (increase of M2/GDP and private credit/GDP), 2 indicators of efficiency (decline in interest spreads, decline in central bank lending to banks/GDP, and 2 indicators of risk (decline in real interest rate, and no recurrence of banking problems). Improvement in an indicator is judged by the change in the performance 4 years before and after the on-set of the crisis. All 12 indicators were given equal weight. Countries with improvement in more than 9 indicators were deemed to have made "substantial" progress, improvement in 6 and 9 indicators made "moderate" progress, and improvements in 5 or less indicators made "slow progress".

- All of the substantial progress countries which gave incentives to owners and management in order to encourage better participation. Countries that did not use such incentives tended to make slower progress. This is one reason that the Indonesian recapitalization plans for recovery incentives to private banks (such as the ability to write NPL recoveries off against government equity) make sense.

- Institutionally, countries with slower progress tended to rely on the central bank to manage the entire banking restructuring and used medium term liquidity support from the central bank as a restructuring tool. In contrast, substantial progress countries tended to make use of special loan work out units (such as IBRA's AMU).

- Standing alone, the evidence is mixed on the usefulness of exchanging bonds for NPLs and mergers, but there are indications that closures and new equity injections from the government were used more extensively in successful countries than in slow progress countries.

Appendix 5. International comparison of the cost of bank restructuring

Fiscal costs of banking crises depend on many things, most notably: the size of the problem, the extent of the banking sector's development in the economy, and the type of government reform measures chosen. Table 13 below shows the costs borne by several developing and developed countries in dealing with "systemic" banking crises. [26]

Table 13: Estimates of Total Costs of bank restructuring/recapitalization in selected cases of systemic banking crises

Country	Years	M2/GDP*	Scope of Crisis	Cost (% of GDP)
Ghana	82-89	17%	7 (out of 11) banks hit	6%
Benin	88-90	20%	80% NPLs	17%
Argentina	80-82	25%	70 institutions liquidated or taken over by central bank (16% of banking assets, 35% of finance company assets)	55%
Mauritania	84-93	25%	5 major banks had NPLs of 45%-70%	15%
Mexico	95-?	29%	Banks NPLs reach 9.3%	Est. 12-15%
Sri Lanka	89-93	30%	State banks with 70% of loans have NPLs of 35%	5%
Cote Dívoire	88-91	31%	4 big banks hit, accounting for 90% of all loans	25%
Indonesia	**97-?**	**56%**	**NPLs of 60-75%?**	**30%?**
Norway	87-89	64%	6 banks subsidized, 3 taken over and recapped	4%
Spain	78-83	79%	51 institutions with 20% of deposits rescued, 20 small banks nationalized	17%
Senegal	88-91	226%	7 banks closed, accounting for 20-30% of financial system	17%
Chile	81-83	282%	7 banks and 1 finco hit, with 45% of total financial system assets	41%
Philippines	81-87	298%	8 banks (accounting for 62% of bank assets) and 32 thrifts (53.2% of thrift assets) hit	3%
Venezuela	94-95	304%	Insolvent banks accounted for 30% of financial system deposits	18%
Finland	91-93	615%	Savings bank sector hit	8%

Source: Caprio and Klingebiel, "Bank Insolvencies: Cross-country Experience," World Bank, July 1996. International Financial Statistics. * In first year of crisis.

Early estimates of the cost of Indonesia's banking crises have run around 30% of GDP. While this may seem high compared to countries with other very large problems in their banking system, for Indonesia's level of banking sector development, measured as the ratio of M2/GDP, this 30% figures is not too high. By way of comparison:

- Benin faced 80% NPLs in 1988, but its banking reform program only cost 17% because its banking system, with an M2/GDP ratio of 20%, was not as developed as Indonesia's banking system with an M2/GDP ratio of 56%.

- Chile, on the other hand, had a very developed banking system, with M2/GDP of 282% before its banking crisis of 1981. Thus, even though only around 45% of its banking assets were in trouble, its banking reform program cost it 41% of GDP. This makes sense relative to Indonesia, since although its banking system is less developed than Chile,

[26] "Systemic" banking crises are defined in this paper to be crises where the entire net worth of the banking system is wiped out (total equity in banking system is negative).

Indonesia's NPL problem is likely to reach around 60-75% of total loans, a figure much higher than Chile.

- Argentina's decision to liquidate a large number of institutions made its bank reform program a very expensive 55% of GDP, even though it had a relatively less developed banking system (M2/GDP of 25%) and only 16% of its banking assets and 35% of financial assets were in trouble. Indonesia's plan to recapitalize some banks, rather than liquidate them, has helped keep the cost lower.

Glossary/List of acronyms

AMU	Asset Management Unit. Division of IBRA intended to take over the assets of the banks closed or taken over by IBRA as well as the NPLs of the banks in the recapitalization program.
BBO	*Bank beku operasi*, banks with "frozen operations," refers to banks such as the 7 banks "frozen" in April 1998 and the 4 banks "frozen" in August 1998.
BCA	Bank Central Asia, the largest private bank in Indonesia. Previously owned by the Salim Group, the bank was taken over by the Government in June 1998
BDL	*Bank dalam liquidasi*, refers to banks being liquidated such as the 16 banks closed in November 1997
BDNI	Bank Dagang Nasional Indonesia, one of the largest private banks in Indonesia. Its activities were 'frozen' by IBRA on 21 August 1998
BII	Bank Internasional Indonesia, one of the largest private banks in Indonesia
BIS	Bank for International Settlements, located in Basle, Switzerland
BLBI	*Bantuan Liquiditas Bank Indonesia*. This is loans from BI to banks originally designed to help banks with short term liquidity problems (like bank runs). However, once it was clear that some banks' problems were long term, the banks' owners were asked to repay the BLBI, and in absence of cash to pledge real assets in order to repay the debt over time.
BNI	Bank Negara Indonesia, publicly listed, state-owned bank.
BPDs	*Bank Pembangunan Daerah* are regional development banks set up in each province.
BPPN	*Badan Penyehatan Perbankan Nasional* (IBRA in English)
BTN	Bank Tabungan Negara, state-owned mortgage bank.
BTO	Bank taken over, refers to 6 private banks plus state-owned bank Ex-Im whose operations were taken over and whose management was replaced by IBRA.
CAR	Capital Adequacy Ratio, the ratio of the bank's *equity* to its *risk-weighted earning assets*. Indonesian banks are currently required to have a CAR of 4% by end of 1998 and 8% by end of 2001.
Collateral deduction	Calculation of value of collateral which is allowed to be netted off against the gross value of the loan before applying the required loan loss provision percentage. The share of a piece of collateral's value which may be deducted depends on the type of the collateral and the recentness of any appraisal of that collateral. For example, 100% of the value of pledged cash bank accounts, SBIs or other government notes can be deducted. Only 50% of the market value of pledged securities (stocks, corporate bonds, etc.) can be deducted. For property (land, buildings, airplanes and sea vessels) pledged as collateral, the allowed deduction depends on the recentness of the appraised assessment of the asset pledged. Deductions are allowed for 70% of the property's value if the appraised assessment is less than 6 months old, 50% for assessments between 6 and 18 months old, 30% for assessments between 18 and 30 months old, and 0% for assessments more than 30 months old.

Earning assets	Earning assets are any assets on which the bank earns interest. This includes loans to the Government (SBIs), loans to other banks (interbank placements), and loans to companies. (See also "risk weighted earning assets" defined below).
Equity	Equity is generally considered to be amount of equity listed on a company's balance sheet and includes paid-in capital, capital surplus, and retained earnings (also known as Tier 1 equity). For banks, the definition of equity used for the CAR calculation may also include: some portion of provisions for bad loans, subordinated debt, other long-term debt (Tier 2 equity). According to BI decision No. 31/146/KEP/DIR dated November 12, 1998, banks can also count general reserves up to 1.25% of total risk weighted assets as equity for the purposes of the CAR calculation.
IBRA	Indonesian Bank Restructuring Agency (BPPN in Indonesian)
Loan loss provisions	Used in this paper to refer to provisions made by a bank in any given year as shown in the bank's profit and loss statement.
Loan loss reserves	Used in this paper to refer to the cumulative stock of loan loss provisions from previous years as shown on the bank's balance sheet.
Net loan value	Net loan value is the gross loan value less the value of deductible collateral. It is on this net loan value that the required loan loss provision percentages are applied.
Net Open Position (NOP)	The net open position is the absolute value of a banks net foreign exchange position (i.e. the banks foreign exchange assets net of its foreign exchange liabilities). This includes balance sheet items (such as loans and deposits) and off balance sheet items (such as swaps and forwards). For regulatory purposes, the absolute value of the net foreign exchange position is usually compared to the banks' equity. In Indonesia, for example, the NOP is limited to 25% of the bank's equity.
Non Performing Loan (NPL)	Current definition of non-performing loans is fully described in BI decision No. 31/148/KEP/DIR dated November 12, 1998. This decision classifies loans in terms of ability to pay, business prospects, and financial condition of the borrower. Based on the ability to pay criteria, the 4 categories of NPLs are: (1) special mention, loans less than 90 days overdue, but showing payment irregularity, requiring provisions of 5% by 2001; (2) substandard, loans more than 90 days overdue, requiring provisions of 15% by 2001; (3) doubtful, more than 6 months overdue, requiring provisions of 50%; (4) bad, more than 9 months overdue or declared 'bad', requiring 100% provisions and write-off.
PPAP	Indonesian acronym for loan loss provisions.
Risk-weighted earning assets	Risk weighted earnings assets are the sum of a bank's earning assets weighted according to certain risk factors. While the Bank for International Settlements (BIS) has established some guidance for risk weights internationally, each country is entitled to determine its own risk weights for its own regulatory purposes. In Indonesia, for example, corporate loans are perceived to be the riskiest activity of the bank and therefore are given 100% weight. Sovereign bonds, including SBIs, are considered to be 'risk free' and therefore are given 0% weight. In Indonesia, loans to state-owned enterprises and mortgage loans are also given less than 100% weight. Thus, the composition of a bank's assets will effect the calculation of the bank's CAR, and banks with a low CAR may choose to shift to risk free assets such as SBIs rather than risky assets such as loans.
Tier 1 equity	Paid in capital, share surplus, retained earnings. Shown on balance sheet as "equity."

Tier 2 equity	Non-tier 1 equity items which are allowed to count as quasi-equity in banking capital adequacy calculations. Shown on balance sheet as “long-term liabilities” or “subordinated debt”